

App. No. 09/839,851  
Amendment B  
Page 4

Amendments to the Claims

Claim 1 (Original): A method of data transfer comprising the steps of:

- (a) establishing multiple dynamic wireless linkages between a communications network based on an Internet protocol and a user terminal via a plurality of geo stationary satellites; and
- (b) transferring datagrams conforming to the Internet protocol between the user terminal and the communications network over the multiple wireless linkages.

Claim 2 (Original): The method of Claim 1 wherein the communications network is the global Internet.

Claim 3 (Original): The method of Claim 1 wherein the multiple wireless linkages are coupled to the communications network by RF communications base terminals connected to Internet nodes.

Claim 4 (Original): The method of Claim 1 wherein the datagrams comprise data frames conforming to the Internet protocol.

Claim 5 (Original): The method of Claim 1 wherein the user terminal assembles datagrams from data frames received as input from the communications network.

Claim 6 (Original): The method of Claim 1 wherein the user terminal fragments datagrams to generate data frames generated as output to the communications network.

App. No. 09/839,851  
Amendment B  
Page 5

Claim 7 (Currently amended): A communications system comprising:

- a plurality of geo-stationary satellites;
- a communications network based on an Internet protocol;
- a plurality of Internet nodes coupled to the communications network;
- a plurality of communications base terminals coupled to the Internet nodes and to the plurality of geostationary satellites;
- and
- a user terminal coupled to the plurality of geo-stationary satellites, wherein multiple dynamic wireless linkages are established between the communications network based on the Internet protocol.

Claim 8 (Original): The communications system of Claim 7 wherein the user terminal comprises:

- a multiple beam antenna for receiving and transmitting signals between the user terminal and the plurality of geo-stationary satellites;
- a plurality of amplifiers coupled to the multiple beam antenna;
- a plurality of bandpass filters coupled to the plurality of amplifiers;
- a modem coupled to the plurality of bandpass filters;
- a router & hub coupled to the modem;
- a transport layer coupled to the router & hub; and
- an estimation processor coupled to the hub & router.

Claim 9 (Original): The communications system of Claim 8

App. No. 09/839,851  
Amendment B  
Page 6

wherein the estimation processor comprises:

- a plurality of relative position vectors;
- a user state vector;
- a plurality of satellite state vectors; and
- at least one estimation algorithm module coupled to the plurality of relative position vectors, the user state vector, and the plurality of satellite state vectors.

Claim 10 (Original): The communications system of Claim 8 wherein the estimation processor is coupled to an external calibration information module.

Claim 11 (Original): The communications system of Claim 8 wherein the estimation processor outputs the relative position vectors to the router & hub and to the multiple beam antenna.

Claim 12 (Original): The communications system of Claim 8 wherein the multiple beam antenna comprises a reflector and a plurality of feedhorns coupled to the reflector.

Claim 13 (Original): The communications system of Claim 12 wherein the reflector is a parabolic reflector.

Claim 14 (Original): The communications system of Claim 12 wherein each of the plurality of feedhorns is located on a focal plane of the reflector.

Claim 15 (Original): The communications system of Claim 12 comprising a tracking mechanism coupled to the multiple beam antenna.

App. No. 09/839,851  
Amendment B  
Page 7

Claim 16 (Original): The communications system of Claim 15 wherein the tracking mechanism adjusts a position of each of the plurality of feedhorns independently.

Claim 17 (Original): The communications system of Claim 15 wherein the tracking mechanism adjusts a position of the reflector to optimize overall data throughput.

Claim 18 (Currently amended): A user terminal comprising:  
a multiple beam antenna for establishing multiple dynamic wireless linkages between the user terminal and a communication network based upon an Internet protocol;

a plurality of amplifiers coupled to the multiple beam antenna;

a plurality of bandpass filters coupled to the plurality of amplifiers;

a modem coupled to the plurality of bandpass filters;

a router & hub coupled to the modem;

a transport layer coupled to the router & hub; and

an estimation processor coupled to the router & hub.

Claim 19 (Original): The user terminal of Claim 18 wherein the estimation processor comprises:

a plurality of relative position vectors;

a user state vector;

a plurality of satellite state vectors; and

at least one estimation algorithm module coupled to the plurality of relative position vectors, the user state vector, and the plurality of satellite state vectors.

App. No. 09/839,851  
Amendment B  
Page 8

Claim 20 (Original): The user terminal of Claim 18 wherein the estimation processor is coupled to an external calibration information module.

Claim 21 (Original): The user terminal of Claim 18 wherein the estimation processor outputs the relative position vectors to the router & hub and to the multiple beam antenna.

Claim 22 (Original): The user terminal of Claim 18 wherein the multiple beam antenna comprises a reflector and a plurality of feedhorns coupled to the reflector.

Claim 23 (Original): The user terminal of Claim 22 wherein the reflector is a parabolic reflector.

Claim 24 (Original): The user terminal of Claim 22 wherein each of the plurality of feedhorns is located on a focal plane of the reflector.

Claim 25 (Original): The user terminal of Claim 22 comprising a tracking mechanism coupled to the multiple beam antenna.

Claim 26 (Original): The user terminal of Claim 25 wherein the tracking mechanism adjusts a position of each of the plurality of feedhorns independently.

App. No. 09/839,851  
Amendment B  
Page 9

Claim 27 (Original): The user terminal of Claim 25 wherein the tracking mechanism adjusts a position of the reflector to optimize overall data throughput.